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B O T A N Y A T B E R N I C E P . B I S H O P M U S E U M [1]

Alvin K. Chock [2]

Bernice Pauahi Bishop Museum was founded by Charles Reed Bishop (1822-1915) in 1889 as a memorial to his wife, Bernice Pauahi Bishop (1831-1884), who had founded and willed her estate to The Kamehameha Schools. Originally a limited and private institution to house the Hawaiian collections of Bernice Pauahi, Queen Emma, other Hawaiian families, and the Hawaiian Government, the Museum's concept and objectives have expanded to sponsorship of field research in Polynesia and the Pacific. The collections and field work in the natural sciences and anthropology form the basis of the hundreds of Museum publications. These activities changed the institution from one of only local importance to one internationally known in the field of Pacific Science.

Construction of the original building began in 1889. It consisted of the present Entrance Hall and Kahili Room, and was added to gradually as need for more space developed. The building was located on the campus of the Kamehameha Boy's School.[3] In 1894 Polynesian Hall was completed and in 1898-1903 Hawaiian Hall was built. This was followed by the construction of two research laboratories, Paki Hall in 1910-11, and Konia Hall in 1925. Bishop Hall was released to the Museum by The Kamehameha Schools in 1957-61. Plans have been made for the construction of an Entomology Building, financed by a National Science Foundation Grant.

For eight years William T. Brigham (1841-1926) was the sole Museum staff member. He was appointed Curator in 1890, Director in 1896, and Director Emeritus in 1919. In 1864-65 Brigham was in Hawaii with Horace Mann on a botanical-geological expedition. The collection of 909 specimens was the first important one to be deposited in the Herbarium. By 1893 there were over 1,339 specimens, and today there are over 240,000

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[1] Compiled from the Director's Annual Reports, 1899-1961. Dates were checked with a manuscript written by Donald Mitchell.
Acknowledgements: The author is grateful to Dr. Roland W. Force, Director; E. H. Bryan, Jr., Curator of Collections; Miss Marie C. Neal, Botanist; and my wife, Yona, for reviewing the manuscript.

[2] Assistant Botanist, B. P. Bishop Museum. Also with Agricultural Research Service, U. S. Department of Agriculture, and Department of Botany, University of Hawaii.

[3] Now located on Kapalama Heights.

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By the turn of the century the Museum's objectives were to collect specimens not only from Hawaii, but throughout the Pacific--everything that could be used in Pacific research. Although there was a Herbarium and a "Botanical Department", there was no botanist. Brigham was keenly interested in employing one and in 1908 Charles Noyes Forbes of the University of California was hired. He was Assistant in Botany the first year and Curator of Botany until his death on August 10, 1920. In August 1908 he and Brigham went to Kilauea, Hawaii. The following month he and J. F. Rock[4] camped at Punaluu, Oahu, and further enlarged the Hawaiian botanical collections.

Forbes began to collect systematically and made many extended field trips to the different islands. During the period from 1908 to 1920 he collected over 25,000 Hawaiian plant specimens and published 15 papers. The Herbarium grew with these collections and with other accessions through purchase, gift, and exchange. In 1908 the first exchange relationship was made with the Botanical Garden at Sydney and in 1910 agreements were made with the Philippine Bureau of Science[5] and the Herbarium of Prince Roland Bonaparte, Paris. The A. D. E. Elmer Philippine collection of 3,335 specimens and Miss Josephine Tilden's Pacific collection of 700 specimens were purchased. Resident collectors included the Rev. J. M. Lydgate and George C. Munro.

The year 1920 was a significant one for the Museum. The First Pan-Pacific Scientific Conference, forerunner of the Pacific Science Congresses, was held in Honolulu. A reciprocity agreement was made with the University of Hawaii for mutual use of libraries, collections, and research facilities. The Museum was to serve as depository and curator of all systematic collections, with the University assisting in making the collections. The Museum also served as the publications media with its Special Publications (1892-), Memoirs (1898-1949), Occasional Papers (1898-1923; 1930-), and Bulletins (1922-). In 1922 the combined herbaria of the University of Hawaii and the Board of Agriculture and Forestry were incorporated into the Museum's Herbarium. This collection of 28,000 specimens was built up through the efforts of J. F. Rock, former botanist of these two institutions.

An arrangement was made with Yale University[6] to include the loan of a Yale faculty member as Museum Director and to award annually Bishop Museum Fellowships in the Natural Sciences and Anthropology for research projects in the Polynesian area. The first Fellow in Botany (1921-22) was Dr. F. L. Stevens who collected Hawaiian fungi and published a monograph in 1925[7].

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[4] See Hawaiian Botanical Society Newsletter II(1), January 1963, and Taxon XII(3), April 1963. Rock later became an Honorary Associate in Botany (1955-1962).

[5] This arrangement was made by E. D. Merrill, later appointed Honorary Consultant in Botany (1920-56).

[6] The original agreement for the years 1921-24 was amended in 1924 to provide for enrollment in the Yale Graduate School while at the Bishop Museum; in 1926 for two instead of four fellowships each year and a stipend increase. The fellowships were terminated in 1941 because of World War II and resumed for a brief period (1953-57) under a tri-institutional agreement by Yale University, B. P. Bishop Museum, and the University of Hawaii. Fellowships now offered for Pacific research projects are those available in conjunction with research grants. Other provisions were made regarding the Director: he was relieved of his teaching responsibilities at Yale; his appointment was made with the approval of the Museum Trustees, and still later, appointed by the Museum and given faculty status at Yale. In 1931 the inauguration was made for a Bishop Museum Visiting Lecturer at the Yale Graduate School.

[7] The research projects of the Bishop Museum Fellows are summarized in the Appendix.

The inauguration of large scale explorations in Polynesia also took place in 1920.[8] As part of the series of Bayard Dominick Expeditions, which was largely anthropological, two botanists, Dr. and Mrs. Forest B. H. Brown, collected 9,000 speciemsn from the Marquesas, Tuamotus, Tahiti, Rarotonga, and New Zealand. They returned to Honolulu in 1922. Dr. Arthur J. Eames of Cornell University, who was with another party of the Expedition, collected 1,200 Samoan plants. Funds were provided for this field work by Bayard Dominick through Yale University.

From 1920 to 1956 Dr. Elmer D. Merrill served as Honorary Consultant in Botany. In addition to his taxonomic work, he made an outstanding contribution to the botany of Eastern Asia and the Pacific through his botanical bibliographic research. The first two editions of his Polynesian Botanical Bibliography were published by the Museum. From 1920 to 1949 he made records of Polynesian species described in the literature, depositing a duplicate set of "pink slips" in the Bishop Museum.

Gerrit Parmile Wilder, a specialist in food plants, was appointed Honorary Associate in 1920. Until his death in 1935 he made almost annual trips in the Pacific, contributed funds for expeditions and library books, and wrote several Museum publications.

The Museum's Fanning Island Expedition in 1922 was primarily zoological, but a representative series of plants were collected. The Whitney South Seas Expedition, sponsored by the American Museum of Natural History, sent a duplicate set of 4,000 specimens to the Bishop Museum. This portion (1920-22) of the Whitney Expedition covered the Society, Marquesas, Tuamotu, Austral, Gambier, and other islands. In 1924 E. H. Bryan, Jr., Assistant Entomologist,[9] was invited to accompany the Whitney Expedition. He collected 3,000 numbers of plants in Samoa, Nassau, Pukapuka, the Phoenix and Tokelau Islands, and Fiji, particularly the Lau group.

In 1923-24 the National Research Council and the U. S. Navy sponsored the Tanager Expedition. Five trips were made in the Hawaiian Leeward Islands, Johnston, and Wake. Seeds were also planted on the almost denuded islands of Laysan and Lisiansky. Botanical members of the expedition included Dr. E. Christophersen (Museum Fellow), E. L. Caum (HSPA), Dr. James B. Pollock (University of Michigan), and G. P. Wilder, botanists; C. S. Judd (Hawaii Board of Agriculture and Forestry), forester; and William M. Bush and Orme Cheatham, assistants. In 1924 two trips were made to the Line Islands by the Whipporwill Expedition. The botanists on these two trips were Dr. E. Christophersen and Dr. H. F. Bergman (University of Hawaii).

In 1924 Mr. and Mrs. Gerrit P. Wilder accompanied the Kaimiloa Expedition and collected on Fanning, Christmas, Malden, Tongareva, and Tahiti. The expedition was sponsored by Mr. and Mrs. M. R. Kellum of Moorea. After leaving the "Kaimiloa" in Tahiti, they collected in the Society Islands, Cook Islands, Samoa, and Fiji the next two years. Wilder also studied the different breadfruit varieties. He was in the Society and Cook Islands again in 1928-29, Laysan in 1930, and the Societies in 1931-32.

In 1926 the field work of John W. Moore of the University of Minnesota was supported by the M. R. Kellum Fund. Dr. L. H. MacDaniels of Cornell University began a year's study of the fehi banana and the phloem of Hawaiian woody plants. Research was done in Tahiti and Hawaii.

Miss Anna Ho (now Mrs. Annie Ho Coker), first employed in 1921 as a Guide, began to mount plants in the Herbarium and eventually became a full-time Laboratory Assistant.

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[8] Not included in the text are the other institutional expeditions which provided the Bishop Museum with a duplicate set of specimens.

[9] Now Curator of Collections, and Manager, Pacific Scientific Information Center, B. P. Bishop Museum.

The Tongan Expedition made collections on Eua, Tongatabu, Niuafoou, Vavau, Apia, and Suva. The personnel for the Bishop Museum-University of California Expedition were selected by Dean E. D. Merrill (Museum Honorary Consultant) and Professor William A. Setchell of the University of California. Setchell had collected before in the Pacific and deposited duplicates at the Museum. He had recommended to the Museum his student, C. N. Forbes, who became the first Museum Botanist. Members of the expedition included Professor and Mrs. Setchell, and H. E. Parks (Associate in Botany). The following year, 1927, Parks and John W. Gillespie (Museum Fellow) were sent to Fiji.

In 1928 E. H. Bryan, Jr., Curator of Collections, whose duties include keeping the botanical collection records, supervised the initial compilation of a card catalog of specimens in the Herbarium which is being continued to this date. This project and an interest in Hawaiian plants prompted him to begin a checklist of Hawaiian species and botanical publications. He worked on this project while doing graduate work at Stanford University in 1929-30 and continues to add new data to his files.

In 1928 Dr. Erling Christophersen, a Museum Fellow in 1924-25, was appointed Botanist to do research on the Samoan flowering plants. He did field work there in 1929-30 and 1931-32, and published a flora in 1935 and 1938.

In 1929 Miss Marie C. Neal was appointed Botanist. She had joined the Museum in 1920 as Assistant Malacologist, but developed a special interest in Botany. In 1925 during a trip to New Zealand she collected plants from South Island, and received her M. S. degree from Yale based upon an ecological study of Hawaiian algae. Since that time she has specialized in the plants introduced to Hawaii, especially those which are cultivated here. A book, In Honolulu Gardens, was published in 1928, and its successor, In Gardens of Hawaii, in 1948.

In 1930 Dr. St. John, Professor of Botany, University of Hawaii, was appointed Museum Botanist under a cooperative agreement with the University. He later collected extensively on each of the Hawaiian Islands and also on other Pacific islands. He represented the Museum at several International Botanical and Pacific Science Congresses and made several trips to European and Mainland U. S. herbaria. In 1939-40 he was Museum Visiting Professor at Yale. Many of his students collected and identified Hawaiian plants, depositing their specimens at the Museum and publishing their research results. Among his students were E. Y. Hosaka[10], F. R. Fosberg, R. S. Cowan, R. Wilbur, G. Webster, H. A. Miller, W. H. Hatheway, A. K. Chock[10, 11], K. A. Wilson, C. H. Lamoureux[10, 11], E. T. Ozaki, and B. C. Stone.

In 1929-30 the Museum and Arnold Arboretum undertook the sponsorship of the study of New Caledonian plants by I. Franc, Professor of Botany, Ecole Frederic Surleau, Noumea.

Edward L. Caum, Assistant Botanist, Experiment Station of the Hawaiian Sugar Planters' Association; G. R. Ewart, Botanist, Bishop Estate; and Glen W. Russ, Board of Agriculture and Forestry, contributed their services to the building up of the Herbarium.

In 1930 Edwin B. Bartram, a retired banker who became an international authority on the Bryophyta, was in Honolulu for two months and appointed Honorary Associate. He completed a moss manual of Hawaii three years later and continues to identify Pacific moss specimens for the Museum.

In 1931 Otto Degener[12] began to deposit a set of his collections in the Herbarium. These collections were made while he was associated with the University of Hawaii and Hawaii National Park. He began to collect extensively on the different islands, devoting full-time to field work. In 1940 he was a member of the Anne Archbold Expedition to Fiji and in the 1950s botanized Canton Island.

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[10] Later affiliated with the Museum as a staff member.

[11] Now University of Hawaii faculty member.

[12] Since 1935, Collaborator in Hawaiian Botany, New York Botanical Garden. Degener lives at Waialua, Hawaii.

In 1931 Edward Y. Hosaka was appointed Laboratory Assistant and in 1933 became Assistant Curator of Collections. He spent his weekends exploring Kipapa Gulch and completed a floristic and ecological study for a two volume Master's thesis in 1935. It was published in part by the Museum in 1937. He became associated also with the Hawaii Agricultural Experiment Station, University of Hawaii and Parker Ranch in 1937. Because of these activities Hosaka was appointed Museum Associate in Botany (regular staff) in 1941. He collected specimens while making range management studies on the other islands. In 1946 he was a member of the U. S. Commercial Company's economic survey of Micronesia. The first set of specimens was deposited in the U. S. National Museum and the second set in the Bishop Museum. In 1950 he was appointed Honorary Associate, serving in this capacity until his death in July 1961.

In 1932-33 Dr. Truman G. Yuncker was appointed Museum Fellow and began research on the Hawaiian Peperomia. This led him to study this genus from other areas. In 1939-40 he explored the Manua Islands of Samoa and Niue Island and prepared a record of the plants of each, as a Museum Fellow. In 1941 he was appointed Honorary Associate. Field studies in Tonga during 1953 led to the publication of Plants of Tonga.

In 1934-35 Dr. Carl Skottsberg became Bishop Museum Lecturer at Yale University. He was the second Museum Fellow in Botany (1922-23) and in 1935 was appointed Honorary Associate. In 1938 he returned to Hawaii to direct the Hawaiian Bog Survey which explored the bogs on Molokai, Maui, Hawaii, Kauai, and Oahu. The topography, ecology, development, and pollen analysis were studied by Skottsberg, Dr. Olof H. Selling, and Lucy Cranwell, Museum Fellow. Numerous publications resulted from this study, including three volumes on the Studies in Hawaiian Pollen Statistics by Selling.

In 1934 the Mangarevan Expedition was organized with southeastern Polynesia as the area of study. The Tuamotu, Mangareva, Pitcairn, Henderson, Rapa, Marotiri, Raivavae, Tubuai, Rurutu, Rimatara, Maria, and some of the Line Islands were botanized by St. John and F. Raymond Fosberg[13], resulting in a collection of 40,000 sheets of specimens.

A great deal of field work took place in the late 1930s. In 1935-36 the Micronesian Expedition under the auspices of the Palau Tropical Biological Station and Bishop Museum took place. The Japanese botanists accompanying the expedition, M. Takamatsu and Y. Shoji, were from the Saito Foundation Museum. In 1936 Bryan was sent to Guam to help reorganize the Guam Museum. He collected 1,300 specimens and prepared a check list of nearly 600 species. He began a series of articles on the Plants of Guam which was interrupted by World War II, but resumed in 1956. During 1936-39 Miss Neal and Dr. Constance Hartt of HSPA explored the small islands off Oahu and collected plants with the Hawaiian Academy of Science Mauna Kea expedition. In 1937 St. John went to Fiji with funds provided by HSPA, Dr. C. M. Cooke, Jr. (Malacologist), and Henry J. Lapham. In 1938 a Carnegie Corporation grant enable the Rotuma Expedition to six islets, with St. John as botanist. In 1939-40 Dr. E. A. Bessey of Michigan State College was Visiting Professor at the University of Hawaii and identified fungi in the Herbarium.

In 1941 the remainder of the Board of Agriculture and Forestry (Territory of Hawaii) Herbarium was deposited in the Museum. It consisted of the collections of J. F. Rock and G. W. Russ.

World War II suspended the large scale field expeditions of the Museums and communications with European specialists were hampered and interrupted. Some servicemen, especially W. H. Wagner, Jr.[14] and D. H. Grether, took advantage of their presence in the Pacific Theater to collect plants.

In 1943 Neal began work on "In Gardens of Hawaii", the successor to "In Honolulu Gardens" (1928). This tome was published in 1948 and has been out of print for several

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[13] Now with the U. S. Geological Survey, Washington, D. C. Also Chairman of the Standing Committee on Pacific Botany, Pacific Science Association.

[14] Now Professor of Botany and Curator of Pteriodphytes, Herbarium, University of Michigan, Ann Arbor.

years. Since 1958 she has been working on the second edition, with her time for this project being divided with normal curatorial duties. It is expected that this task will be completed soon. During 1955-57 much of her time was occupied with the compilation of 2,200 plant entries for the Hawaiian-English Dictionary.

In 1945-46 the University of Hawaii Micronesian Expedition made two trips with transportation supplied by the U. S. Navy. St. John and others collected in the Marshalls, Carolines, and Marianas in 1945, and the following summer Dr. D. P. Rogers and R. S. Cowan collected in the Marshalls. In 1949 St. John also collected in Bikini, Eniwetok, and Likiep, and Dr. Yoshio Kondo, Malacologist, collected in the Bonins, Marianas, and Palau. In 1955 St. John initiated research on Pandanus, under a National Science Foundation Grant. Extensive field work was done in the Pacific and Indian Ocean areas, assisted by Benjamin C. Stone[15], and in 1960 the Museum assumed institutional support for the grant.

In 1948-50 Dr. Gertrude E. Douglas, who first visited Hawaii in the summer of 1928, spent twelve months in the Herbarium. She sorted duplicates and resumed the open exchange relations with the various scientific institutions previously interrupted by the war. Bryan completed the task in the Fall of 1950. A total of 25,000 sheets were sent to 16 European and American institutions.

In 1956 and 1959 botanical surveys were made for the U. S. National Park Service. The first was at the City of Refuge Historical Park by Miss Neal and Miss Amy Greenwell of Captain Cook, Hawaii. The second, at the Kalapana extension of the Hawaii Volcanoes National Park, was made by B. C. Stone.

In 1957 the Bishop Museum and the National Museum of the Philippines sponsored the Hawaii-Philippines Sulu Sea Expedition. Three months were spent in the Sulu Sea area.

In 1960 the Pacific Scientific Information Center was established at the Museum, financed by a National Science Foundation grant. Its objects are to facilitate the flow of scientific information, especially the geography, natural and social sciences in the oceanic Pacific. In 1961 it helped to produce a List of Botanists of the Pacific Area. This was prepared for the Standing Committee on Pacific Botany of the Pacific Science Association by Drs. F. R. Fosberg and Maxwell S. Doty.[16] This year a revised list, Pacific Botanists 1963, is being published.

In 1961 the Tenth Pacific Science Congress convened in Honolulu. It was sponsored by the National Academy of Sciences, University of Hawaii, and B. P. Bishop Museum. Botanists from all over the world attended the meetings and many outstanding papers were presented, contributing to a better understanding of Pacific botany. Greater cooperation was also achieved through this gathering of scientists.

Since the war Museum funds for botany have been rather limited, restricting the work of the Herbarium to curating and maintaining the collections. Although the Museum is the official depository of scientific specimens for Hawaii, the Hawaiian Legislature made no appropriations to assist in its support until 1953. In 1961 a second appropriation was made. These funds provided for additional herbarium cases and necessary building repairs and renovations. In 1959-62 the National Science Foundation Museum Research Facilities Rehabilitation Grant was used for needed equipment and technical assistance, including the appointment of Alvin K. Chock as Assistant Botanist on a part-time basis.

Plans are now being formulated for a revitalization of the Museum's research program in botany. The exchange of duplicate specimens, interrupted again in the 1950s by lack of personnel, was resumed this year. The Herbarium's collections are used extensively both by scientists visiting the Museum and by loan to other scientific institutions. Many of the specimens collected by the expeditions mentioned above have been identified, described, and reported upon by noted botanists throughout the world. Bishop

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[15] Now Chairman, Department of Biology, College of Guam.

[16] Professor of Botany, University of Hawaii.

Museum has published 182 botanical papers, while others have been printed in other journals. Monographic studies also have been furthered by this form of international cooperation. All this has made the Museum known favorably to scientists in many lands.

B. P. Bishop Museum has laid the foundation for future work and has filled the need for knowledge about Pacific botany. Located in the mid-Pacific, it has the most strategic location for Pacific science research. It has the potential to grow, limited at the present time only by lack of adequate funds to continue its explorations and research work.

A P P E N D I X

Regular Staff

Charles Noyes Forbes, B.S., Assistant in Botany, 1908; Curator of Botany, 1909-20.

Forest B. H. Brown, Ph.D., Botanist, 1920-28; (Honorary Research Associate in Botany, 1929).

(Mrs.) Annie Ho Coker, (Guide, 1921-) 1926-28; General Assistant, 1929-47; Laboratory Assistant, 1948- .

Erling Christophersen, Ph.D., (Bishop Museum Fellow, 1924-25); Botanist, 1928-32.

Marie C. Neal, M.S., (Assistant Malacologist, 1920-29); Botanist (in charge), 1929- .

Harold St. John, Ph.D., Botanist, 1930- ; Bishop Museum Visiting Professor, Yale University, 1939-40. (Professor Emeritus of Botany, University of Hawaii).

Edward Y. Hosaka, M.S., Laboratory Assistant, 1931-32; Assistant Curator of Collections (Botany), 1933-40; Associate in Botany, 1941-49; (Honorary Associate, 1950-61).

Alvin K. Chock, M.S., Assistant Botanist, 1961- .

Honorary Staff

Elmer D. Merrill, M.S., Sc.D., LL.D., Honorary Consultant in Botany, 1920-56. (Director, Bureau of Science, Philippines (1919-23); Dean, College of Agriculture and Director, Agricultural Experiment Station, University of California (1924-29); Director, New York Botanical Garden (1930-35); Director, Arnold Arboretum and Administrator of Botanical Collections, Harvard University (1935-46); Arnold Professor of Botany, Harvard University (1946-48; emeritus, 1948-56).

Gerrit P. Wilder, M.S., Associate in Botany, 1920-25; Botanist, 1926-35.

(Mrs.) Elizabeth Wuist Brown, Ph.D., Research Associate in Botany, 1920-25.

Arthur J. Eames, Ph.D., Research Associate in Botany, 1920-21. (Professor of Botany, Cornell University).

L. H. MacDaniels, Ph.D., Research Associate in Botany, 1926-36. (Professor of Horticultural Botany, Cornell University).

John W. Moore, M.A. (now Ph.D.), Associate in Botany, 1926-27; Research Associate in Botany, 1929-32. (Graduate student (now Professor of Botany), University of Minnesota).

Henry E. Parks, Associate in Botany, 1927. (Technical Assistant in Botany, University of California).

Forest B. H. Brown, Ph.D., (Botanist, 1920-28); Research Associate in Botany, 1929.

John W. Gillespie, Ph. D., (Bishop Museum Fellow, 1927-28); Associate in Botany, 1929; Research Associate in Botany, 1930-32. (Assistant Professor of Science, Arizona State Teachers College).

Edwin B. Bartram, Research Associate in Botany, 1930- .

Carl Skottsberg, Ph.D., (Bishop Museum Fellow, 1922-23); Bishop Museum Visiting Lecturer, Yale University, 1934-35; Research Associate in Botany, 1935- . (Director, Botaniska Trädgarden, Göteborg, Sweden (1919-48); Professor Emeritus of Botany, University of Göteborg, 1948-).

George E. Papenfuss, Ph.D., Associate in Botany, 1941-42. (Professor of Botany, University of California).

Truman G. Yuncker, Ph. D., (Bishop Musuem Fellow, 1932-33 and 1939-40); Associate in Botany, 1941- . (Professor of Botany, DePauw University).

Edward Y. Hosaka, M.S., (Laboratory Assistant, 1931-32; Assistant Curator of Collections (Botany), 1933-40; Associate in Botany, 1941-49); Honorary Associate in Botany, 1950-61. (Then Specialist in Pasture Management & Agronomy, Agricultural Extension Service, University of Hawaii).

Joseph F. Rock, LL.D., Sc.D., Honorary Associate in Botany, 1955-6?. (Former Botanist, College of Hawaii and Board of Agriculture & Forestry, Territory of Hawaii).

V. J. Krajina, D.Sc., (Bishop Museum Fellow, 1929-30); Honorary Associate in Botany, 1963- . (Professor of Botany, University of British Columbia).

Charles H. Lamoureux, Ph.D., Honorary Associate in Botany, 1963- . (Assistant Professor of Botany and Chairman, Department of Botany, University of Hawaii).

Bishop Museum Fellows (Botany)

F. L. Stevens, Ph.D., 1921-22, Hawaiian fungi. (Professor of Plant Pathology, University of Illinois).

Carl Skottsberg, Ph.D., 1922-23, Plant distribution in the Pacific and Hawaii. Also Bishop Museum Visiting Lecturer, Yale University, 1934-35; Associate in Botany, 1935- . (Director, Botaniska Trädgarden, Göteborg, Sweden).

Helen H. Purdy, A.B., 1923-24, Bacterial red stripe disease of sugar cane.

Erling Christophersen, Ph.D., 1924-25, Plants of the Pacific Equatorial Islands, and Leeward Islands, Hawaii. Also Botanists, 1928-32. (Lecturer in Botany, University of Oslo).

Alva R. Davis, Ph.D., 1925, Absorption of iodine, bromine, and chlorine by Hawaiian algae. (Associate Professor of Plant Physiology, University of California.

Carey D. Miller, M.S., 1925-26, Vitamin content of Hawaiian foods. (Assistant Professor of Home Economics; now Professor Emeritus of Foods and Nutrition, University of Hawaii).

John W. Gillespie, B.S., 1927-28, Plants of Viti Levu, Ovalau, and Taviuni (Fiji). Also Associate in Botany, 1929; Research Associate in Botany, 1930-32. (Graduate student, Stanford University).

Frances Grace Smith, Ph.D., 1928-29, Ecology of Hawaiian ferns, especially Diellia. (Professor of Botany, Smith College).

V. J. Krajina, D.Sc., 1929-30, Hawaiian ferns and Pipturus. Also Honorary Associate in Botany, 1963- . (Assistant, Botanical Institute, Charles University, Prague; now Professor of Botany, University of British Columbia).

Martin L. Grant, M.A., 1930-31, Plants of Tahiti, Borabora, Tahaa, Tubai, Mehetia (Society Islands). (Instructor in Botany, University of Minnesota).

Truman G. Yuncker, Ph.D., 1932-33, Revision of Hawaiian Peperomia; and 1939-40, Plants of Niue Island. Also Associate in Botany, 1941- . (Professor of Botany, DePauw University).

Albert C. Smith, Ph.D., 1933-34, Plants of Fiji. (Associate Curator, New York Botanical Garden; now Assistant Secretary, Smithsonian Institution).

Frank E. Egler, Ph.D., 1936-37, Ecology of southeastern Oahu. (Assistant Professor of Forestry, New York State College of Forestry).

Lucy M. Cranwell, M.A., 1938-39, Hawaiian bog survey. (Botanist in charge, Auckland Institute & Museum; now Mrs. Watson Smith).

Harold S. Shirakawa, Ph.D., 1954-55, Fungal leaf parasites: developmental morphology of Bagnisiopsis nuda. (Notre Dame University).

Ichizo Nishiyama, Ph.D., 1954-55, Cytogenetics of primitive and hybrid varieties of sugar cane. (University of Tokyo).

Robert C. Cooper, Ph.D., 1955-56, Cultivated plants of the south Pacific (Fiji, Samoa, Society Islands, New Caledonia, New Zealand, and North Queensland). (Auckland Institute & Museum).

THE BOTANICAL INSTITUTES STAFF OF BOGOR, INDONESIA

Maxwell S. Doty [1/]

A friendly feeling exists between many Society members and what is perhaps the greatest national botanical garden in the Southern Hemisphere, the Kebun Raya (Great Garden) and its associated institutes. The organizational plan and list of most of the professional staff for this group, associated with the National Biological Institute, is given below. Its headquarters is adjacent to or in the Kebun Raya at Bogor, at an elevation of about 800 meters and about thirty kilometers from Djakarta. A number of active botanical institutes are also located in the vicinity of Bogor, including the Penjelitian Perkanin Darat (Institute of Fresh Water Research); Balai Penjelidikan Kehutanan (Forest Research Institute); and the principal center for agricultural research. These are administratively distinct, however, since they are in the Ministry of Agriculture.

The Lembaga Biologi Nasional (National Biological Institute) is part of the Majelis Ilmu Pengetahuan Indonesia (MIPI). The MIPI conrresponds to our National Research Council, and is in the Ministry of Research. The famous Bogor botanical library is next door to the Herbarium and at the present time is supported by both the MIPI and the Ministry of Agriculture. Thus the work of the National Biological Institute is scientific rather than agricultural.

As indicated in the chart a large number of the staff are currently abroad receiving advanced training. They are for the most part staffed by selected young scholars from all over Indonesia. Of this group Miss Setijati Notoatmodjo, Mr. Didin Sastrapradja, Miss Rastini Rasid, and Mr. Aprilany Soegiarto have done graduate work at the Department of Botany, University of Hawaii. Mr. Soegiarto is now working toward his doctorate in oceanography at the University of Washington. The first two are still doing work for their degrees in Hawaii. Messrs. Soegeng and Sujarto are receiving flowering plant taxonomy training at Harvard University.

Dr. A. J. G. H. Kostermans is officially with the Balai Penjelidikan Kehutanan (Forest Research Institute) but works in the Lembaga Herbarium Bogoriense. Messrs. Soegeng, Sujarto, and Ali are among the group known as "Dr. Kostermans' boys". Ali is employed by the Institute of Fresh Water Research.

The staff in general is young and able, wanting in experience and training, and often in proper facilities for the work they would like to do, but have such a tremendous enthusiasm for their work that it seems they are sure to succeed. The National Biological Institute always welcomes botanists of serious purpose and seems able to make the scientific visits of their foreign colleagues both a pleasant and fruitful experience. It is certain that correspondence with any of the staff members would be welcomed.

There are also plans underway at the present time for the establishment of branch gardens on the other Indonesian islands.

[1/] Professor of Botany, University of Hawaii. Also President, Hawaiian Botanical Society.

L E M B A G A B I O L O G I N A S I O N A L
(National Biological Institute)

A. LEMBAGA PENELITIAN BOTANI
(Treub Laboratory)

Head: Ir Soetomo Surohaldhoko*
Staff: Mr. Ischak Loebis[2]
Mr. Soemadi Atmowidjojo[2]
Miss Kinarti Wirjoatmodjo
Miss Setijati Notoatmodjo[3]

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(Herbarium)

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Staff: Mr. Soegeng Reksodihardjo[3]
Mr. E. Soepadmo[2]
Mr. Koeswata Kartawinata[4]
Mr. Mien Achmad Rifai[2]
Mr. Sujarto Djojodjendul[3]
Miss Sujatmi

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(Marine Biology Research Institute)

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Mr. Subagjo*
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Mr. Soejanto
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Mr. Mahpud*

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(Government Botanical Garden)

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Staff: Mr. Didin S. Sastrapradja[3]
Mr. Sarkat Danimihardja
Mr. R. E. Nasution
Mr. Saleh Idris*
Miss Rastini Rasid
Miss Siti Aisah
Miss Latifah

---

* Married.

2-5. At present doing advanced training in:

2. England.
3. United States.
4. Singapore.
5. Canada.

SOCIETY MEETING

DATE: Monday, May 6, 1963, 7:30 p.m.

PLACE: Agee Hall, Experiment Station of the Hawaiian Sugar Planters' Association, 1527 Keeaumoku Street, Honolulu.

SUBJECT: "Genetics of the fungus Sordaria fimicola" (Illustrated).

SPEAKER: Dr. Lindsay S. Olive, Professor of Botany at Columbia University, is Visiting Professor of Botany, University of Hawaii. He is teaching mycology and conducting research on the cellular slime molds this spring semester. After leaving Hawaii he will travel to Tahiti, Samoa, Tonga, Indonesia, and Singapore in search of cellular slime molds before returning to New York via Egypt and Greece.

Dr. Olive was born in South Carolina and received his A.B., M.A., and Ph.D. degrees at the University of North Carolina. He taught at the University of Georgia and Louisiana State University before joining Columbia University in 1949. (CHL)

JUNE MEETING: The meeting next month will be held on June 3, 1963 at 7:30 p.m. Dr. Charles Rick, Carnegie Visiting Professor of Horticulture, has consented to be the speaker. No meetings will be held during the summer months (July, August, and September), with the next regular meeting scheduled for October 7, 1963.

EDITOR'S NOTES

NEWSLETTER REPORTING: Effective May 15th, the deadline of the Newsletter has been changed from the 20th to the 15th of each month prior to publication. This change has been made necessary by the expansion of the Newsletter and the unfortunate occurrence of holidays during the latter part of the month. Miss Harriet Koyama, Secretary, Department of Botany, University of Hawaii, will contact reporters each month for news items and articles. Other Society members are invited to call Miss Koyama (telephone 992-051, ext. 369 or 9679-369) when they have items appropriate for inclusion in the Newsletter. If you wish, they may still be submitted in writing (typed, double spaced) and sent to the Editor, c/o B. P. Bishop Museum, or c/o Department of Botany, University of Hawaii, Honolulu. No issues will be published during the months of July, August, and September. The deadlines for the next two issues are May 15th and September 15th. The Editor will be on the mainland from May 5 to June 19. During this absence Drs. Maxwell S. Doty and Charles H. Lamoureux, Department of Botany, University of Hawaii, will serve as Editors for the June 1963 issue. Miss Koyama will, however, phone the reporters.

DUES: If you have not paid your 1963 dues, please send $2.00 as soon as possible to the Treasurer, Mr. William M. Bush, c/o Castle & Cooke, Inc., P. O. Box 2990, Honolulu 2. The funds are needed to meet current Society expenses.

MEMBERSHIP INQUIRIES: Inquiries regarding Society membership should be sent to the Membership Committee. They are: Dr. Louis G. Nickell (chairman), HSPA Experiment Station, Honolulu 14; Dr. James Brewbaker, Department of Horticulture, University of Hawaii, Honolulu 14; and Mr. Kalfred Yee, Garden City, Inc., Waialae Shopping Center, Honolulu 16.

ADDRESS CHANGES: Address changes and non-receipt of the Newsletter should be sent to the Secretary, Dr. Toshio Murashige, Department of Horticulture, University of Hawaii, Honolulu 14.

LETTER TO THE EDITOR

Dear Editor,

We have a problem which needs to be solved. How does one determine the surface area of the branch system which makes up a head of broccoli? Or in another case, the surface area of a sometimes flattened but irregular root which has been growing around and between lava chunks?

A Reader

Ed.: Suggestions from our other readers are welcomed.

PLANT QUARANTINE DIVISION

George W. Dyson has been appointed Inspector-in-Charge of Honolulu. He has been in charge of the Seattle port for the past two years and prior to that was stationed in Honolulu for 13 years. Dyson succeeds H Ivan Rainwater who has headed the port of Honolulu since 1959. Rainwater will become Assistant Staff Officer, Methods and Procedures at the Division Headquarters in Washington, D. C. He leaves Honolulu on May 6 and has been an active participant in local scientific circles. Also leaving on that date for the Washington, D. C. Plant Inspection Station is Supervisory Inspector William R. Pifer.

Recently promoted to Supervisory Inspector are Herbert Hannagan and Benjamin Hu. In June, Hu will become Inspector-in-Charge at Hilo, replacing Wallace Chun, who will return to Honolulu.

A recent arrival was Melvin Apo from New York. (AKC)

ORGANIZATION NOTES

NEW MEMBERS: The following were elected to Society membership at the April meeting: Dr. Reed C. Rollins, Director, Gray Herbarium, Harvard University, Cambridge 38, Massachusetts; James W. Smith, Lanai City, Lanai; Ted Green, Foster Botanical Garden, Honolulu; Carl K. Sato, Plant Quarantine Division, Agricultural Research Service, U. S. Department of Agriculture, Honolulu; Mrs. A. Lester Marks, 3860 Old Pali Road, Honolulu; Dr. Newton E. Morton, Professor of Genetics and Chairman-Designate, Department of Genetics, University of Hawaii; Donald Li, Associate Director, Hawaiian Science Clubs Service, c/o University of Hawaii; R. Hosmer, Professor Emeritus of Forestry, Cornell University, Ithaca, New York (former Territorial Forester, Board of Agriculture & Forestry, Honolulu); Dr. Robert L. Wilbur, Curator of Herbarium, Duke University, Durham, North Carolina; Dr. Marie-Hélène Sachet, Pacific Vegetation Project, National Research Council, Washington 25, D. C.; Robert E. Alexander, Department of Geography, Office of Naval Research, Washington 25, D. C.; C. F. Warner, Grove Farm Co., Puhi, Kauai; Herschel Fox, 237 E. 20th St., New York 3, N. Y. (retired Supervisory Plant Quarantine Inspector); Fortunato Teho, Cooperative Extension Service, University of Hawaii; Clifton J. Davis, Hawaii Department of Agriculture.

DIRECTORY DELETIONS: Miss Ann Halsted and Miss Charlotta Hoskins.

CONSTITUTIONAL REVISION: It was decided at the April meeting to establish a committee to review the Constitution and the membership procedure. Appropriate pertinent revisions will be recommended by the Committee which consists of Dr. E. J. Britten (chairman), Department of Agronomy and Soils, University of Hawaii; Dr. Charles H. Lamoureux, Department of Botany, University of Hawaii; and Dr. Donald P. Gowing, Assistant Director, Pineapple Research Institute of Hawaii. The present Membership Committee will advise in the development of an efficient membership nomination and election procedure. At the present time, six signatures are required for proper nomination to membership.

BOTANICAL TRIPS: Miss Beatrice Krauss, Chairman of the Botanical Foray Committee, will present recommendations to the Executive Committee this month. Tentative trips include Kaena Point and Palehua. Possibilities for next year are to an off-shore islet and Mt. Kaala. The June Newsletter will include a "field trip guide" to the area selected.

CONSTITUTIONAL AMENDMENT: With the deletion of Article VI, Section 2 last year, the Society voted to renumber Section 3 and 4 to 2 and 3, respectively, of Article VI, as recommended by Parliamentarian E. J. Britten.

C O L L E G E O F G U A M

The College of Guam is inaugurating a journal devoted to the sciences in Micronesia, to be titled MICRONESICA. The fields of botany, anthropology, and zoology will be included with emphasis upon the Micronesian area. Other related Pacific regions will be included.

While the language of the journal is English, it will be international in scope, as relected by the Board of Editors. Contributions will be welcomed from research workers in all parts of the world. The scope of the journal will be limited only by geographical and subject matter. Submitted papers should deal with the marine or terrestrial biota of the Micronesian area, and emphasis is placed on systematics, ecology, and marine studies. Physical and social anthropology and linguistics will also be included.

The subscription price contemplated is less than $5.00 for the first volume, which will be approximately 100 pages in length. The Editor will be Dr. Benjamin C. Stone, Biology Department, College of Guam, Agana, Guam. Inquiries concerning the proposed journal should be sent to the Editor. (BCS)

B O T A N I C A L N O T E S

THE NATIONAL SCENE: Dr. H. B. Tukey of Michigan State University was elected President of the International Society for Horticultural Science at the 100th anniversary meeting at Brussels, Belgium.

Dr. Remington Kellogg retired as Assistant Secretary of the Smithsonian Institution and Director of the U. S. National Museum. Dr. Albert C. Smith, Director of the Museum of Natural History, became an Assistant Secretary. Smith was a Bishop Museum Fellow in 1932-33 and is a specialist on the Fijian flora. Dr. T. Dale Stewart succeeds Smith as Director of the Museum of Natural History. The following recently joined Smithsonian: Dr. Richard H. Eyde is Associate Curator, Division of Woods; Dr. Harold E. Robinson, recently at Wofford College, is now Associate Curator, Division of Cryptogams; and Dr. Stanwyn G. Shetler from the University of Michigan is Assistant Curator, Division of Phanerogams.

The 1963 Joint Meetings of Biological Societies sponsored by the American Institute of Biological Scientists will be held at the University of Massachusetts, Amherst,

on August 27-31. Some of the scientists which will hold their meetings at that time are: American Bryological Society, American Phytopathological Society, American Society for Horticultural Science, American Society of Naturalists, American Society of Plant Physiologists, American Society of Plant Taxonomists, Botanical Society of America, Ecological Society of America, Genetics Society of America, Mycological Society of America, National Association of Biology Teachers, Nature Conservancy, Phycological Society of America, and the Tomato Genetics Cooperative. (From AIBS Bulletin 13(1): 31, 32, and 36, Feb. 1963).

Dr. F. Raymond Fosberg of the National Research Council is Chairman of the AAAS Natural Areas as Research Facilities Council Study Committee. (AKC)

NEWSLETTER PUBLICITY: Information about the Hawaiian Botanical Society Newsletter has recently appeared in two bulletins, the Pacific Science Association Information Bulletin 14(5/6): 18, September/November 1962 and Taxon (news bulletin of the International Association for Plant Taxonomy) XII(1): 39, January 1963. (AKC)

Continued on page 73

U N I V E R S I T Y O F H A W A I I

PH. D. EXAMINATION: The oral examination of Minoru Aragaki, candidate for the Ph. D. degree in Botany, will be held on Friday, April 26, at 9:00 a.m. in the Henke Hall Conference Room. Aragaki's thesis topic is "Relation of Light and Temperature to the Sporulation of Alternaria tomato (CKE.) Weber."

SPRING VACATION FIELD TRIPS: The botanists and geneticists were active during the recent Easter holidays, in spite of the inclement weather. Major attention was focused on the island of Kauai where collections were made by Dr. F. K. Sparrow of the University of Michigan (UH Visiting Colleague); Dr. Lindsay S. Olive, Visiting Professor of Botany; Dr. Maxwell S. Doty, Professor of Botany; Dr. Charles Rick, Carnegie Visiting Professor of Horticulture; and Dr. Charles Lamoureux, Chairman, Department of Botany. Two chemistry students, David Boylan and Arthur Goldberg, accompanied the botanists and were testing endemic plants for alkaloids. Dr. S. G. Stephens, Visiting Professor of Genetics, was collecting Hawaiian Malvaceae on Hawaii, and Drs. Olive and Sparrow also visited Hawaii during the week. (CHL)

ACADEMIC YEAR INSTITUTE: The Academic Year Institute, under the direction of Dr. Michael Frodyma, Department of Chemistry, held two field trips this year. One was held on the island of Hawaii during the semester break, and the other on Kauai during the Spring vacation period. The program, supported by an NSF grant, provide high school science teachers with additional training and has 28 mainland and local teachers enrolled. Dr. Gordon MacDonald of the Department of Geology and Dr. Sidney Townsley, Department of Zoology, were on both trips. The Department of Botany was represented by Alvin K. Chock on the Hawaii trip and Dr. Charles H. Lamoureux on the Kauai one. Dr. Elmo Hardy, Department of Entomology, was also on the Kauai trip. Accompanying Hardy was Dr. Ian Thornton of the University of Hong Kong who is East-West Center Senior Scholar in Entomology. (CHL & AKC)

SEMINAR - RECENT ADVANCES IN PLANT CYTOGENETICS: Genetics 654 & Horticulture 171 meets at 3:10 p.m. on Tuesdays in Physical Science Building 210. April 30- Breeding and linkage problems in tomato, J. C. Gilbert; May 7 - Interspecific introgression and its interpretation, S. G. Stephens; May 14 - Polyploidy and improvement of sugar cane, J. N. Warner; May 21 - Speciation and breeding of pineapple, G. Johannsen; and May 28 - Speciation and breeding in the orchids, T. J. Sheehan.

Continued on page 73

RECENT PUBLICATIONS

ALLAN, H. H. 1961. Flora of New Zealand, vol. I. liv + 1085, 40 figs. Wellington: Government Printer. (£5, 5s.).

ANDERSON, HENRY W., WALT HOPKINS & ROPERT E. NELSON. 1962. A program for watershed management research in Hawaii wildlands. Pac. S.W. For. & Range Expt. Sta. (For. Svc., USDA) Tech. Pap. 72:i 1-15, figs. 1-8.

CASSIDY, N. G. 1961. Can flotation of coconuts be used to indicate quick germination? Fiji Dept. Agr., Agr. Jour. 31: 10-11, 1 fig.

CASTILLO, B. S. & K. MARMOROSCH. 1960. Preliminary report on the boang disease of coconut in Mindanao, the Philippines. FAO Plant Protec. Bul. 8: 105-108.

DEGENER, OTTO & ISA DEGENER. (March) 1963. Flora Hawaiiensis, vol. 6 (in part). 22 pp., 4 figs.

FENNELL, DOLLA. (March) 1963. Henry Brougham Guppy, 1854-1926. IN: Degener, Otto & Isa Degener, Flora Hawaiiensis, vol. 6. 3 pp., 1 pl.

FOSBERG, F. R. (January) 1963. Serianthes Dilmyi again. Taxon 12(1): 34-35. (S. Dilmyi Fosb. vs. S. grandiflora Benth.)

HOLMES, FRANCIS O. (April) 1962. The Guam disease of coconut palms. FAO Pl. Prot. Bul. 10(2): 25-28, fig. 1.

_____. 1961. Correlation of cadang-cadang disease in coconut and certain diseases in weed. FAO Plant Protec. Bul. 9: 148-152.

NICKELL, L. G. & P. N. GORDON. 1963. Halogenated Kojic Acid derivatives, related compounds, and their physiological effects on plant growth. Agric. & Biol. Chem. 27: 65-68.

REINKING, O. A. 1961. Yellow mottle decline of coconuts in the territory of Guam. Plant Dis. Reptr. 45: 599-604.

_____. 1961. Infectious yellow mottle decline of coconuts. Territory of Guam, Department of Agriculture, Report to the Government of Guam, March 1961.

_____, & J. D. RADEWALD. 1961. Cadang-cadang disease of coconuts in Guam may be caused by a soil-borne plant virus spread by dagger nematodes (Xiphinema sp.) Plant Dis. Reptr. 45: 411-412.

ST. JOHN, HAROLD. (January) 1963. Revision of the genus Pandanus Stickman, part 14. New species from Malaya and Singapore. Pac. Sci. XVII(1): 3-46, figs. 150-171.

SKINNER, HENRY T., JOHN L. CREECH, & FRANCIS DE VOS. (March) 1963. Needs for a tropical botanic garden in Hawaii. i + 1-33. U.S. National Arboretum, U. S. D. A. (mimeo).

SPECHT, R. L. 1962. The nomenclature of some Borreria species from Northern Australia. Kew Bul. 16(2): 239-240.

STEVENSON, GRETA. 1962. The Agaricales of New Zealand. III. Rhodophyllaceae. Kew Bulletin 16(2): 227-237, figs. 1-2, pls. 4-5.

WATKINS, G. 1961. The indigenous trees of Fiji. Fiji Dept. Agriculture, Agr. Jour. 31: 12-18, 3 figs.

WILSON, J. TUZO. (February 15) 1963. Pattern of uplifted islands in the main ocean basins. Science 139(3555): 592-594, figs. 1-2, tab. 1.

WINKLER, LINDSAY R. & E. YALE DAWSON. (January) 1963. Observations and experiments on the food habits of the California sea hares of the genus Aplysia. Pac. Sci. XVII(1): 102-105, tabs. 1-2.

UNIVERSITY OF HAWAII - Continued from page 71

SEMINAR - CONTINUITY OF LIFE: Microbiology 690 meets at 1:10 p.m. on Mondays in Health Research Institute 208. April 29 - Evidence for evolution in bacteria, W. F. Seymour; May 6 - DNA, its synthesis and replication, Miss Evelyn Kojima; May 13 - DNA, current views on the nature of the "Code", S. Nakasone; and May 27 - Replication of plant and animal viruses or Replication of bacteriophages, A. Faustino. (AKC)

BOTANICAL NOTES - Continued from page 71

RESEARCH AWARD TO G. BAKER: Dr. Gladys E. Baker of the Plant Science Department, Vassar College, Poughkeepsie, New York was awarded a research grant by the Society of Sigma Xi and its associated organization, the Scientific Research Society of America (RESA). This award is to assist her in the study of "The isolation and identification of Hawaiian fungi, particularly from the soil." Dr. Baker was Visiting Professor of Botany in 1961-62, and will return to Hawaii in the Fall 1963 as Professor of Botany. Her field is mycology and she has spent several summers at Flathead Lake, Montana, studying the aquatic fungi. (MSD & AKC)

VISITOR: Dr. Jacques Barrau of the South Pacific Commission was a visitor at the B. P. Bishop Museum. He will visit Tahiti and Samoa before returning to his headquarters in Noumea. He was in Europe conducting SPC and UN business.

TV SHOW: A. K. Chock will be the speaker on the Aloha State Farmer program on Sunday, May 5, at 10:00 a.m. on KHVH-TV. He will discuss some of the endemic plants and their economic significance.

HAWAIIAN ACADEMY OF SCIENCE: A paper which won top awards at the Sixth Hawaiian Science Fair was presented at the 38th annual meeting (final session) of the Hawaiian Academy of Science on April 26. It was prepared by Ross Mobley of Kaimuki High School and entitled, @The influence of papaya fruit constituents on sporangial production of Phytophthora parasitica Dast." Mobley began the project last summer as a junior apprentice under Minoru Aragaki, Department of Plant Pathology, University of Hawaii.

Retiring Academy President is Dr. Leonard Tuthill, Assistant Dean, Graduate School and Assistant Director of Research, University of Hawaii. New President is Dr. Donald Gowing, Assistant Director, Pineapple Research Institute of Hawaii.

Officers elected for the 1963-64 year include President-elect Roland W. Force, Director, B. P. Bishop Museum; Secretary R. L. Fox, Associate Professor of Soil Science, University of Hawaii; and Council Members D. Elmo Hardy, Senior Professor of Entomology, and E. Alison Kay, Associate Professor of Science, University of Hawaii. Hold-over council members are retiring president Leonard Tuthill and William M. Bush, Executive Vice-President, Castle & Cooke, Inc.

Taduyuki Kato was selected outstanding Hawaii biology teacher by the National Association of Biology Teachers. An award plaque from the HSPA was presented to him at the Academy banquet. Kato teaches at Kauai High School and recently completed his M.S. thesis based upon the anatomy of Hawaiian arborescent Nyctaginaceae.

A HAWAIIAN BOTANICAL GARDEN

Charles H. Lamoureux [1/]

The Hawaiian Botanical Gardens Foundation, Inc., has received reports from both of the survey teams which visited Hawaii late last summer. While the length of these reports precludes their full publication here, brief summaries of them are given below.

The first team to visit the Islands was from the Botanical Society of America, and consisted of Dr. Pierre Dansereau, Assistant Director, New York Botanical Garden as Chairman; Dr. Frits Went, Director, Missouri Botanical Garden; and Dr. William S. Stewart, Director, Los Angeles State and County Arboretum. The second team, from the U. S. Department of Agriculture, consisted of Dr. Henry T. Skinner, Director of the National Arboretum as Chairman; Dr. Francis de Vos, Assistant Director, National Arboretum; and Dr. John L. Creech, Assistant Chief, New Crops Research Branch, Crops Research Division, Agricultural Research Service.[2/]

Both reports fully endorsed the development of a major tropical botanical garden in Hawaii. The Botanical Society of America's report includes the following statements:

"There is a real urgency to establish not just a Tropical Botanical Garden, but one which is well-staffed and well-equipped with botanical facilities in the tropics. This has been clearly stated in the recent conferences on Tropical Botany and Tropical Biology (in Miami in 1960, in Costa Rica and in Trinidad in 1962). Such facilities should allow research in and teaching of biology in fully tropical surroundings. The survey conducted by these conferences and by staff members of the N.S.F. established that nowhere in those parts of the tropics which are under American sovereignty was there a sufficiently outstanding group of biologists to constitute a full-fledged tropical biological research center, nor was there such a group anywhere else in the neotropics. Many places could serve as the nucleus for such a center, and if a modern botanical garden, with outstanding staff and facilities, were established in Hawaii, this would automatically provide the facility which these conferences on Tropical Botany have sought."

"The Botanical Society of America recommends very strongly that a major tropical botanical garden be developed on U. S. Territory as soon as possible."

[1/] Chairman, Department of Botany, University of Hawaii. Hawaiian Botanical Gardens Foundation, Inc., trustee member.

[2/] Creech and de Vos spent 2½ months in a plant exploration of Nepal after completing their survey.

"The Botanical Society of America endorses the efforts of the Hawaiian Botanical Gardens Foundation towards this objective."

The U. S. D. A. report states that:

"On a basis of evidence accumulated in course of this survey, there remains little doubt that a broadly conceived, properly established and efficiently operated botanic garden situated in Hawaii could serve a valuable purpose as a Pacific center for research on those many botanical, agricultural, and horticultural problems of tropical plants and plant crops, which have already been too long neglected. It could fill an equally real need in providing a means for the training and education of student representatives of countries of the Pacific-bordering tropics, or from the mainland, or any country, that have a serious interest in botanic-garden operation and in the study of research methods with respect to tropical crops and vegetation."

Both reports agree that the headquarters of the garden should be located on Oahu, because of the proximity to existing scientific institutions, and also the concept of smaller branch gardens located in areas of different elevation, rainfall, and soil types. It is suggested that some of these branch gardens be located on the Neighbor Islands, especially on Hawaii. Several sites on Oahu were visited by both teams, and the relative merits of these sites are discussed. The reports differ in their recommendations for the location of the major site and headquarters of the garden. The BSA report favors upper Manoa Valley as first choice, Waiahole Valley as second, and Kahana Valley, third. The USDA report states that "Kahana Valley offers greater potentials as a site for a research institution devoted to tropical botany and agriculture than any other seen in the course of this survey", "Waiahole is given a first-place rating", and "Upper Manoa is not a first choice for the project". Other sites were considered by both teams, but the three sites mentioned were considered to have the greatest potential.

Both reports recommend that the garden to be developed here should be a major one, and considerable space is devoted to detailing the functions of such an operation. Attention is given to ways in which existing arboreta and botanical gardens could best contribute to cooperate with, and perhaps become a functional part of the proposed major garden.

Neither report considers the problem of obtaining financial support for the development and financing of the garden, although the BSA report does suggest the consideration of the "Consortium" type of organization which has been used in the case of Oakridge and Brookhaven. Preliminary estimates of costs of operation range from $300,000 to $1,000,000 annually.

The Trustees of the Foundation feel that the next step in the development of a national tropical botanical garden in Hawaii is to obtain a national charter, establishing a national Board of Trustees. Legislation to accomplish this will be introduced during the current session of Congress. The Trustees of the Foundation feel that this is essential if the garden is to be truly national and even international in scope, since the Hawaiian Botanical Gardens Foundation was not set up to develop and operate such a garden, but rather to help the development of all botanical gardens in the state. While major energy has been devoted to gathering the materials needed to begin organizing the National Tropical Botanical Garden, committees of Trustees have also been working in the support of Foster Botanical Garden, the Lyon Arboretum, and Na La'au Hawaii Arboretum. It is expected that the Hawaiian Botanical Gardens Foundation would become an advisory body to the national Board of Trustees to be established.

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c/o Department of Botany, University of Hawaii, Honolulu 14, Hawaii

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The HAWAIIAN BOTANICAL SOCIETY was founded in 1924 to "advance the science of Botany in all its applications, encourage research in Botany in all its phases," and "promote the welfare of its members and to develop the spirit of good fellowship and cooperation among them." "Any person interested in the plant life of the Hawaiian Islands is eligible for membership in this Society."

E D I T O R I A L S T A F F

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The Hawaiian Botanical Society Newsletter is published monthly, except during the summer months of July, August, and September. It is distributed to all Society members and other interested individuals and institutions, with the purpose of informing them about botanical news and progress in Hawaii and the Pacific. News contributions and articles are welcomed. The deadline for submission of news items is the 20th of each month prior to publication.

Duplicated at the University of Hawaii and Bernice P. Bishop Museum.

Membership Dues are $2.00 per calendar year and include receipt of the Newsletter.

HAWAIIAN BOTANICAL SOCIETY
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University of Hawaii
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